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Michael L. Case

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EXAMINER

LUONG, ALAN H

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/670,064	<b>Applicant(s)</b> CASE, MICHAEL L.	
	<b>Examiner</b> ALAN LUONG	<b>Art Unit</b> 2427	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 8, 13 and 18 have been considered but are moot in view of the new ground(s) of rejection.

1. Applicant argues that the first and second control line interfaces are further described as being to "send and receive control and command data." The corresponding structure in Stecyk would be the IR eye of each respective external device 136. While these are neither shown nor described, a typical IR eye is a passive detector that sends received IR to a decoder. When a code is received that the decoder understands, then an action is taken by the external device. There is no sending of control and command data, only receiving, an IR blaster as shown at 135 in Stecyk does not receive control and command data but sends only. Second, an IR blaster does not use addresses and commands are not addressed. Any device that can parse the IR signal will respond to it. (Remark, page 12)

With respect to argue "There is no sending of control and command data, only receiving, an IR blaster as shown at 135 in Stecyk does not receive control and command data but sends only" is moot, Examiner modifies the above argument by using combined teaching of Stecyk and Griep to teach an IR blaster, and Stecyk with two ways communication remote control of Griep; clearly teach the claimed invention; (see new ground of rejection)

2. In brief, Applicant adds some of these arguments are as follows:

the TV Control Module 140 does not generate generalized instructions for the external devices. The rejection shows some ambiguity as to where this operation occurs in Stecyk. The TV Control Module controls internal devices. The Device Management System 116 does not convert instructions, it passes instructions to the IR Control Module. The claimed control line would seem to correlate better with the link between boxes 135 and 136, not the IR Control Module 130 as suggested by the Examiner.

Finally, it should be noted that Stecyk shows arrows only in one direction from DMS 117 to external devices 136. (Remark, page 13)

This argument is moot in view of the new grounds of the rejection under Stecyk and Griep references. (See new ground rejection of claim 1).

3. With respect to argue to Claim 2, the claim recites "the tuner further generates command responses." However, the Examiner cites "commands from the remote 20." The remote is not the tuner, therefore Stecyk does not show each and every element of the claim as required for anticipation. The cited flow from remote 20 to the TVCM is in the opposite direction from that recited in the claim.

This argument is moot in view of the new grounds of the rejection under Stecyk and Griep references. (See new ground rejection of claim 2).

4. With respect to argue to Claim 4, the claim recites, the "first control line interface further comprises an input/output interface..." However, the Examiner cites general paragraphs describing the IR blaster and various connections between components. Applicants respectfully submit that no input/output interface is suggested in Stecyk for the IR receivers of the external devices. The 1394 external devices have input and output but they all use the same protocol and so the claim does not read on them on other grounds. (Remark, page 14).

This argument is moot in view of the new grounds of the rejection under Stecyk and Griep references. (See new ground rejection of claim 4).

### ***Claim Objections***

1. Claim 18 is objected to because of the following informalities: At page 8 line 3 recited "a first video connection" is misspelled of "a second video connection"

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Publication No. **2002/0171624** by **Stecyk** et al.; In view of **Griep** (US Pat. No.7,009,528).

**Regarding to claim 1:** Fig. 1, 2A-2F of Stecyk illustrates a Home Theater Network System (HTNS) [10] as **an apparatus support a method comprises:**

**a first tuner** (i.e. one of IRC devices [30]; i.e. as VCR [33]) **to receive modulated video signals through a video connection** (i.e. video cable [31]) **and to provide demodulated video signals** (to DVT [12]), **the first tuner having a first control line interface** (i.e. IR transmission cable [38]) **separate from the video connection to receive commands in a first protocol** (i.e. an analog input command from the remote control 20 of Fig. 4 into a device appropriate message comprising device specific IR codes) **specific to the first tuner at the first control line interface;;** (Stecyk, ¶0047-¶0048, Fig. 4, ¶0064)

**a second tuner** (i.e. another of IRC devices [30]; i.e. a digital broadcast satellite tuner (DBS) 32) **to receive modulated video signals through a video connection** ((i.e.

video cable [31]) **and to provide demodulated video signals, the second tuner having a second control line interface** (i.e. IR transmission cable [38]) **separate from the video connection to receive commands in a second protocol** (i.e. a digital input command from the remote control 20 of Fig. 4 into a device appropriate message comprising device specific IR codes) **different from the first protocol and specific to the second tuner at the second control line interface;** (Stecyk, ¶0047-¶0048 Fig. 4, ¶0064)

Fig. 5, 6 and 13 illustrate **a graphics controller** (the TV control module 140, the AVCM 112 and GUI 114 modules which has user interface [50] where user inputs command from remote control [20]; see ¶0070, ¶0071) **to generate generalized instructions for controlling the first and second tuners** (i.e. commands from the remote 20 to select input devices) **and to send the instructions to a separate microcontroller;** (i.e. Digital DMS 116); (Stecyk, ¶0068) **the instructions being generated in a third protocol** (i.e. function of the DMS 116 is to determine based on current system state information and the device action instructions received from the AVCM 112 or GUIM 114) **different from the first and second protocols;** (Stecyk, ¶0069, ¶0071-¶0072, ¶0081, ¶0086)

Fig. 6 illustrates **the microcontroller** (i.e. DMS 116 of DM [110]) **coupled to the graphics controller** (i.e. the TV control module 140, the AVCM 112 and GUI 114) **and having a control line interface coupled through a shared control line;** (see ¶0086) (i.e. referring to Fig. 5 shows the TVCM 140 transforms the command or instructions from the DMS 116 into device appropriate messages to communicate with the internal

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input devices 148 of the HTNS 10 by connection between TV controller [140] and Internal device [148] of Fig. 5) **to the respective control line interfaces of the first and second tuners to receive the generalized instructions from the graphics controller in the third protocol** (i.e. function of the DMS 116 is to determine based on current system state information and the device action instructions received from the AVCM 112 or GUIM 114), **to identify a tuner** (i.e. IRC devices [30]; i.e. a digital tuner 32) **to which each instruction is directed**, (i.e. The bold outline DBS tuner icon 61 which indicates that the DBS Tuner 32 is able or available possibly because the DBS Tuner 32 has been connected from the DTV 12); (**Stecyk, Fig. 2A-2F, ¶0093-¶0098**);

However, Stecyk is silent with “send and receive control and command data” **in claims** “the first tuner having a first control line interface separate from the video connection in a first protocol specific to the first tuner” and “the second tuner having a second control line interface separate from the video connection in a second protocol different from the first protocol”;

“send and receive control and command addressed” in claim “convert the instructions from the third protocol to the protocol for the identified tuner and to the respective identified tuner”.

In an analogous art, Fig. 1 of Griep illustrates a remote control 101 controls an audio system 100 comprises an infrared (IR) transmitter 105 for transmitting control commands to the audio system 100. These messages may comprise control commands, predefined command and request codes, are used to identify the proper command or the type of information requested; the audio system includes an IR

receiver 108 capable of receiving the IR messages transmitted by the IR transmitter of the remote control 101, If the received IR message comprises a status request, the audio system 100 identifies the requested information in accordance with the request code, the audio system also includes an IR transmitter 107 for transmitting the requested status information back to the remote control 101 to determine in a very easy way which status information is received and hence how to process that information. The matching the message identifier with the request code of the respective status message field (i.e. source TV, VCR1 etc.. is displayed on remote control display window as shown in Fig. 2 versus request code 0x03, request from video input source); (see **Griep col. 3 line 9-col. 4 line 37, and TABLE on col. 4 lines 1-15 and Fig. 3 , col. 4 lines 38-46**). Meets the limitation of claim “send and receive control and command data”. **According to KSR guideline C: use of a known technique to improve similar devices in the same way.** Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify the first tuner having a first control line interface separate from the video connection of Stecyk includes two ways communication remote control as taught by Griep to be able to send and receive control and command data in a first protocol specific to the first tuner at the first control line interface; to control and identify the input source device is connected with home entertainment system and status request to be displayed on remote control.

As the same above discussion; **According to KSR guideline C: use of a known technique to improve similar devices in the same way.** Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify, the second tuner having a second control line interface separate from the video connection of Stecyk includes two ways communication remote control as taught by Griep to be able to send and receive control and command data in a second protocol different from the first protocol, to control and identify the input source device is connected with home entertainment system and status request to be displayed on remote control.



Additionally, Stecyk teaches **to convert the instructions from the third protocol to the protocol for the identified tuner and to the respective identified tuner through the shared control line to the respective control line interface of the respective tuner** (i.e. i.e., the internal input devices 148, such as, for example, a digital tuner 142). (Stecyk, ¶0081, ¶0086).

In an analogous art, Fig. 1 of Griep illustrates a remote control 101 transmits the IR messages includes command addressed (i.e. an identifier with the request code with respect to video source as TV or VCR1) to an apparatus where receives the IR messages and transmits back the requested status information back to the remote control to determine the matching the message identifier with the request code of the respective status message field is received at remote control to be displayed on display device. (see **Griep col. 3 line 9-col. 4 line 37, and TABLE on col. 4 lines 1-15 and Fig. 3 , col. 4 lines 38-46 and col. 5 lines 18-54**). ( **According to KSR guideline C: use of a known technique to improve similar devices in the same way**. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify **converting the instructions from the third protocol to the protocol for the identified tuner of** Stecyk from two way communication remote control of Griep to send and receive control and command addressed **to the respective identified tuner through the shared control line to the respective control line interface of the respective tuner**, to control and identify the input source device is connected with home entertainment system and status request to be displayed on remote control.

**Regarding to claim 2:** The apparatus of Claim 1, Griep teaches **wherein the tuner** (i.e. video input source as TV or VCR1; see table **col. 4 lines 1-15**) **further generates command responses in the first protocol** (i.e. an apparatus where receives the IR messages and transmits back the requested status information back to the remote control [101] to determine the matching the message identifier with the request code of the respective status message field); (**Griep; TABLE on col. 4 lines 1-15 and Fig. 3 , col. 4 lines 38-46 and col. 5 lines 18-54**) **According to KSR guideline C: use of a**

**known technique to improve similar devices in the same way.** Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify teaching of Stecyk includes two ways communication remote control of Griep receiving **generated command responses in the first protocol from the tuner;** to control and identify the input source device is connected with home entertainment system and status request to be displayed on remote control.

Fig. 5 shows **the microcontroller** (i.e. DMS 116]) **wherein receives the command responses, converts them to the third protocol** (i.e. translate these commands into instructions for the DMS 116 and TVCM 140) **and transmits the converted command responses to the graphics controller;** (i. e. transmits the event and the system state information to the GUIM 114 where transmits a message to the TVCM 140 to display the device selection menu 52); **(Stecyk, ¶0093)**

**Regarding to claim 3:** The apparatus of Claim 1, in view of Griep, Stecyk teaches **a third tuner** (i.e. one of IRC devices [30]; i.e. a digital video disk player (DVD) 34) **to receive a modulated video signal through a video connection** ((i.e. video cable [31]), **the third tuner having third control line interface** (i.e. IR transmission cable [38]) **separate from the video connection to in a fourth protocol specific to the third tuner,** (i.e. The IR blaster cables 38 enable messages or commands comprising device specific IR codes to be communicated to the IRC devices 30 i.e. the digital video disk player (DVD) 34); **(Stecyk, ¶0047-¶0048, Fig. 4, ¶0064).**

As the same above discussion in claim 1; in view of Griep. **According to KSR guideline C: use of a known technique to improve similar devices in the same**

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**way.** Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify the third tuner having a third control line interface separate from the video connection of Stecyk includes two ways communication remote control as taught by Griep to be able to send and receive control and command data in a fourth protocol specific to the third tuner

**and wherein the microcontroller (i.e. DM 110) receives generalized instructions from the graphics controller for the third tuner in the fourth protocol (i.e. device window 60 of the device selection menu 52 to the adjacent DVD icon 64 corresponding to the IRC DVD player 34), converts them to the fourth protocol, and transmits them to the third tuner.** (i.e. The DMS 116 also formulates appropriate messages that it transmits to the IRC module 130 instructing it to operate the DVD 34 and the IRC AV receiver 37 and to perform the appropriate switching within the DVD and the AVR to enable an audio connection there between); (**Stecyk, ¶0098-¶0099 and ¶0101**)

**Regarding to claim 4:** The apparatus of Claim 1, combined with two ways communication of remote control of Griep, Fig. 1 of Stecyk illustrates **wherein the first tuner first control line interface further comprises an input/output interface (i.e. I/O ports 31 and 38) to communicate data and control signals in the first protocol to external devices (i.e. IRC for Analog signal and 1394 devices 40 for Digital signal); (¶0047, ¶0049);**(i.e. the IRC devices 30 are controlled and operated across IR blaster cables 38 wherein has an electrical cable with an IR emitter connected to one end and a mini-plug for connection to the DTV 12 on the other end of the cable. The IR emitter, is preferably placed in front of or glued onto the IR detector of each IRC device 30 to

communicate device specific IR code based messages to the IRC device 30) **and wherein the microcontroller** (i.e. DM [110] of Fig. 5) **is coupled to the input/output interface convert data and control signals between the first protocol and the third protocol; (Stecyk, ¶0069 and ¶0101);** (i.e. The UIM 111, which provides the context sensitive macro capabilities of the DM 110, translates incoming event signals from the remote, instructs the 1394 , IRC and TVC modules 120, 130 and 140, as to what actions to take);

**Regarding to claim 5:** The apparatus of Claim 1; as discussed in claim 1; Fig. 5 illustrates **a graphics controller (i.e. the TV control module 140, the AVCM 112 and GUI 114 modules which has user interface [50] where user inputs command from remote control [20]; see ¶0070, ¶0071);** where TV control module 140 **as a system processor coupled to the microcontroller** (i.e. DMS [116]);

**Regarding to claim 6:** The apparatus of Claim 1, Fig. 5 of Stecyk shows **a look-up table for the tuner;** (i.e. DCL 117 and DIL 118) and **wherein the microcontroller (i.e. DMS 116) converts the generalized instructions by applying the generalized instructions in the third protocol to the look-up table; (Stecyk, ¶0072, ¶0074);**

**Regarding to claim 7:** The apparatus of Claim 1, FIGS. 7A and 7B of Stecyk shows **an instruction stack specific for the tuner** (i.e. the user may be required to fill in the manufacture's name in the "Manufacturer" window 202 and the model number in the "Model No." window 204 as shown in FIG. 7A; 7B) **wherein the microcontroller** (i.e. DCL 117 and DIL 118 of Device Management system (DMS) [116] in DM [110]) **converts the generalized instructions by applying instructions from the tuner-**

**specific instruction stack**" (i.e. The device type, the manufacture's name and the model number are then used by the DMS to build the DCO/DMOs and DIO for the supported devices.); (**Stecyk, ¶0086- ¶0088**);

**Regarding to claim 8:** method of claim 8 merely repeats the same limitations of apparatus in claim 1, so, claim 8 is rejected the same ground with claim 1

**Regarding to claim 9:** The method in claim 9 has the same limitation in claim 2, so, claim 9 is rejected the same ground with claim 2

**Regarding to claim 10:** The method in claim 10 has the same limitation in claim 3, so, claim 10 is rejected the same ground with claim 3

**Regarding to claim 11:** With respect to the method claim 11, as discussed above since the apparatus disclosed every structural element and its function required by apparatus claim 6 and since this method in claim 11 merely repeat the limitation of claim 6, claim 11 have the same ground rejection as claim 6.

**Regarding to claim 12:** With respect to the method claim 12, as discussed above since the apparatus disclosed every structural element and its function required by apparatus claim 7 and since this method in claim 12 merely repeat the limitation of claim 7, claim 12 have the same ground rejection as claim 7.

**Regarding to claim 13:** With respect to the method claim 13, as discussed above since the apparatus disclosed every structural element and its function required by apparatus claim 1 and since this method in claim 13 merely repeat the limitation of claim 1, claim 14 have the same ground rejection as claim 1.

**Regarding to claim 14:** With respect to the method claim 14, as discussed above since the apparatus disclosed every structural element and its function required by apparatus claim 2 and since this method in claim 14 merely repeat the limitation of claim 2, claim 14 have the same ground rejection as claim 2.

**Regarding to claim 15:** The medium of Claim 13, as discussed above since the apparatus disclosed every structural element and its function required by same apparatus claim 14 and since this method in claim 15 merely repeat the limitation of claim 14, claim 15 have the same ground rejection as claim 14.

**Regarding to claim 16:** With respect to the method claim 16, as discussed above since the apparatus disclosed every structural element and its function required by apparatus claim 6 and since this method in claim 16 merely repeat the limitation of claim 6, claim 16 have the same ground rejection as claim 6.

**Regarding to claim 17:** With respect to the method claim 17, as discussed above since the apparatus disclosed every structural element and its function required by apparatus claim 7 and since this method in claim 17 merely repeat the limitation of claim 7, claim 17 have the same ground rejection as claim 7.

**Regarding to claim 18:** Fig. 1 of Stecyk illustrates DTV [12] as a **video tuner**. comprises:

**a system processor** (i.e. TV control module 140); (**Stecyk, ¶0070- ¶0071**); to receive user commands and to generate generalized instructions in a third protocol based on

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the received user commands to control at least

one of a first and a second tuner;

**a first tuner** (i.e. a digital broadcast satellite tuner (DBS) 32) having a connection to receive **wireless video signals** modulated over a carrier frequency (i.e. DBS signal), the tuner having **a first control line interface** (i.e. IR transmission cable [38]) separate from the video connection [31] to receive commands in **a first protocol specific to the tuner** from the system processor; (**Stecyk, ¶0047-¶0048, Fig. 4, ¶0064**)

**a second tuner** (a digital (D-) cable or satellite receiver 46) having a connection to receive **wireless video signals** modulated over a carrier frequency (i.e. satellite signal), the second tuner having **a second control line interface** (i.e. in series or parallel across 1394 cable 49) separate from the video interface to receive commands in **a second protocol specific to the tuner** from the system processor; (**Stecyk, ¶0045, ¶0050, Fig. 4, ¶0064**)

and

**a microcontroller** (i.e. DMS 116) coupled to the system processor [140] and to the first and second control line interfaces of the first and second tuners to receive generalized instructions from the system processor in the third protocol, to identify a tuner to which each generalized instruction is directed, to convert the received generalized instructions from the third protocol to the protocol for the identified tuner, and to transmit the converted commands to the respective identified tuner through the control line interface of the respective tuner; see discussion in claim 1; (**Stecyk, ¶0081, Fig. 2A-2F, ¶0093-¶0098**);

However, Stecyk is silent with “transmit and receive control and command data” **in claims** “control and command data for the identified tuner, and to transmit and receive control and command data to and from the respective identified tuner”

In an analogous art, Fig. 1 of Griep illustrates a remote control 101 transmits the IR messages includes command addressed (i.e. an identifier with the request code with respect to video source as TV or VCR1) to an apparatus where receives the IR messages and transmits back the requested status information back to the remote control to determine the matching the message identifier with the request code of the respective status message field is received at remote control to be displayed on display device. (see **Griep col. 3 line 9-col. 4 line 37, and TABLE on col. 4 lines 1-15 and Fig. 3 , col. 4 lines 38-46 and col. 5 lines 18-54**). ( **According to KSR guideline C: use of a known technique to improve similar devices in the same way.** Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to modify **converting the instructions from the third protocol to the protocol for the identified tuner of** Stecyk from two way communication remote control of Griep to send and receive control and command addressed **to the respective identified tuner through the shared control line to the respective control line interface of the respective tuner**, to control and identify the input source device is connected with home entertainment system and status request to be displayed on remote control.

**Regarding to claim 19:** With respect to the video tuner in claim 19, as discussed above since the apparatus disclosed every structural element and its function required by apparatus claim 2 and since the video tuner in claim 19 merely repeat the limitation of claim 2, claim 19 have the same ground rejection as claim 2.



**Regarding to claim 20:** With respect to the video tuner in claim 20, as discussed above since the apparatus disclosed every structural element and its function required by apparatus claim 3 and since the video tuner in claim 20 merely repeat the limitation of claim 3, claim 20 have the same ground rejection as claim 3.

**Regarding to claim 21:** With respect to the video tuner claim 21, merely repeat the limitation of claim 4; claim 21 have the same ground rejection as claim 4.

**Regarding to claim 22:** With respect to the video tuner in claim 22, as discussed above since the video tuner disclosed every structural element and its function required by apparatus claim 6 and since the video tuner in claim 22 merely repeat the limitation of claim 6, claim 22 have the same ground rejection as claim 6.

**Regarding to claim 23** With respect to the video tuner claim 23, merely repeat the limitation of claim 7; claim 23 have the same ground rejection as claim 7.

### ***Conclusion***

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN LUONG whose telephone number is (571)270-5091. The examiner can normally be reached on Mon.-Thurs., 8:00am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Beliveau can be reached on (571) 272-7343. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. L./  
Examiner, Art Unit 2427

/Scott Beliveau/  
Supervisory Patent Examiner, Art Unit 2427